NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA

SURATHKAL, MANGALORE - 575 025

Course Code – CS111

Course Name – Computer Programming Lab

Lab - 08

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Files and file operations

Question – 1

Program to read data from the keyboard; write it in a file called DATA.txt. Again read the same data from the file and display it on the screen.

Answer

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
int main()
{
    FILE *fp;
    char name[20], line[50];
    int i, n, roll;
    fp = fopen("DATA.txt", "w");
    if (fp == NULL)
    {
        printf("An error occured");
        exit(1);
    }
    else
    {
        printf("Total student: ");
        scanf("%d", &n);
        for (i = 0; i < n; i++)
        {
            printf("Enter roll: ");
            scanf("%d", &roll);
            printf("Enter name: ");
            gets(name);
            fgets(name, 20, stdin);
            name[strcspn(name, "\n")] = 0;
            fprintf(fp, "%d %s\n", roll, name);
            printf("\n");
```

```c
        }
        fclose(fp);
    }
    fp = fopen("DATA.txt", "r");
    if (fp == NULL)
    {
        printf("An error Occured");
    }
    else
    {
        i = 0;
        printf("Showing info from file: \n");
        while (i < n)
        {
            fgets(line, 50, fp);
            printf("%s", line);
            i++;
        }
        fclose(fp);
    }
    return 0;
}
```
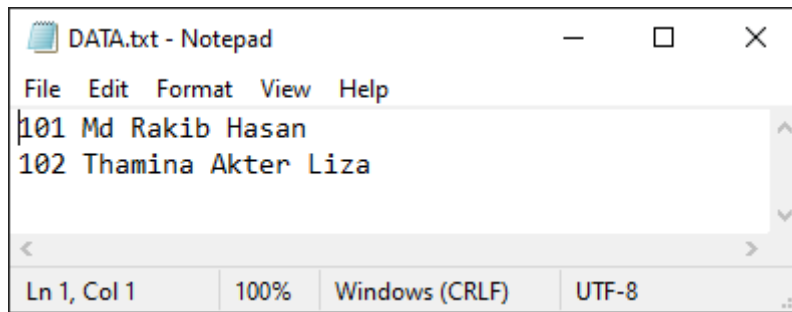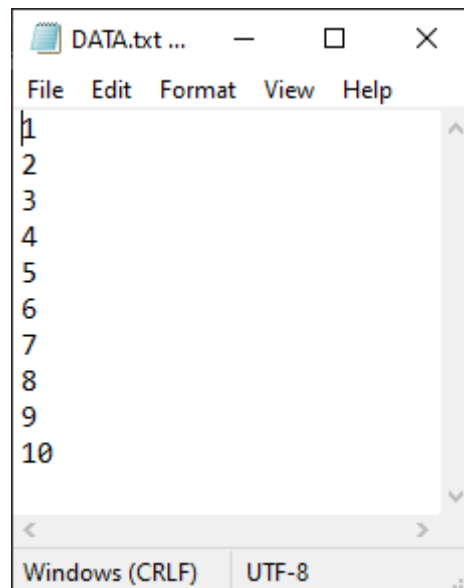
Output

Question – 2

A file named DATA.txt contains a series of integer numbers. Write a program to read these numbers and then write all odd numbers to a file to be called ODD and all even numbers to a file to be called EVEN.

Answer
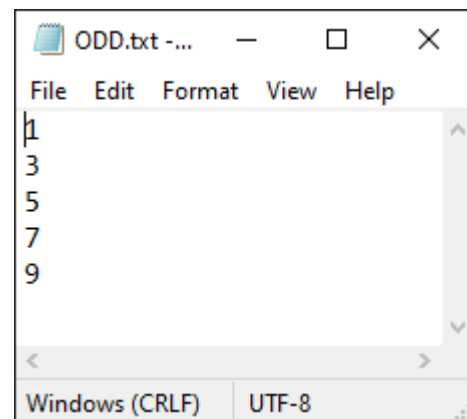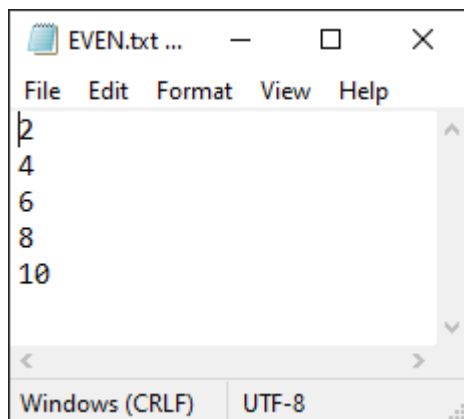
```c
#include <stdio.h>
int main()
{
    FILE *fp, *even, *odd;
    int num;
    fp = fopen("DATA.txt", "r");
    even = fopen("EVEN.txt", "w");
    odd = fopen("ODD.txt", "w");
    if (fp == NULL || even == NULL || odd == NULL)
    {
        printf("An error occured");
    }
    else
    {
        while (!feof(fp))
        {
            fscanf(fp, "%d", &num);
            if (num % 2 == 0)
            {
                fprintf(even, "%d\n", num);
            }
            else
```

```c
            {
                fprintf(odd, "%d\n", num);
            }
        }
    }
    fclose(fp);
    fclose(even);
    fclose(odd);
    return 0;
}
```
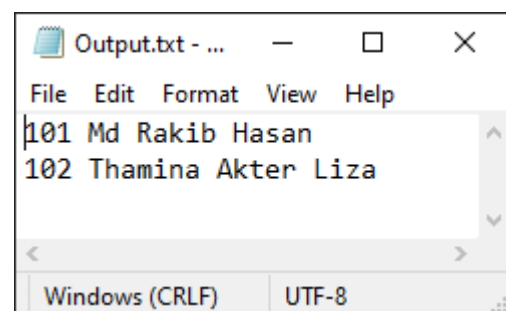
Input

DATA.txt ...
File Edit Format View Help

```
1
2
3
4
5
6
7
8
9
10
```

Windows (CRLF)   UTF-8

Output

EVEN.txt ...
File Edit Format View Help

```
2
4
6
8
10
```

Windows (CRLF)   UTF-8

ODD.txt -...
File Edit Format View Help

```
1
3
5
7
9
```

Windows (CRLF)   UTF-8

Answer

```c
#include <stdio.h>
int main()
{
    FILE *fp_in, *fp_out;
    char line[50];
    fp_in = fopen("Input.txt", "r");
    fp_out = fopen("Output.txt", "w");
    if (fp_in == NULL || fp_out == NULL)
    {
        printf("An error occured");
    }
    else
    {
        while (!feof(fp_in))
        {
            fgets(line, 50, fp_in);
            fprintf(fp_out, "%s", line);
        }
    }
    fclose(fp_in);
    fclose(fp_out);
    return 0;
}
```

Input and Output

Input.txt - N...

File Edit Format View Help

101 Md Rakib Hasan
102 Thamina Akter Liza

Windows (CRLF)   UTF-8

Output.txt - ...

File Edit Format View Help

101 Md Rakib Hasan
102 Thamina Akter Liza

Windows (CRLF)   UTF-8
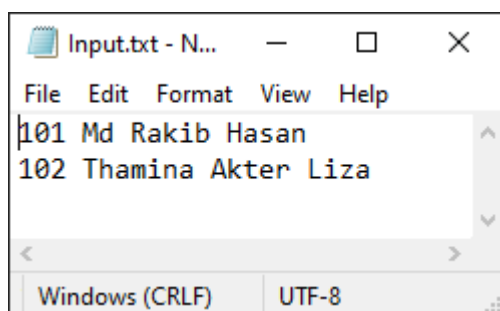
Question – 4

Program to append the content of a file at the end of another file without using append mode

Answer

```c
#include <stdio.h>
#include <stdlib.h>
int main()
{
    FILE *fp_in, *fp_out;
    char line[100];
    fp_in = fopen("Input.txt", "r");
    fp_out = fopen("final.txt", "r+");
    if (fp_in == NULL || fp_out == NULL)
    {
        printf("An error occured");
        exit(1);
    }
    else
    {
        fseek(fp_out, 0, SEEK_END);
        while (!feof(fp_in))
        {
            fgets(line, 100, fp_in);
            fprintf(fp_out, "%s", line);
        }
    }
    fclose(fp_in);
    fclose(fp_out);
    return 0;
}
```
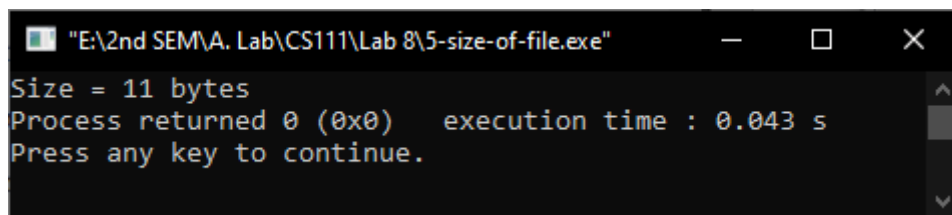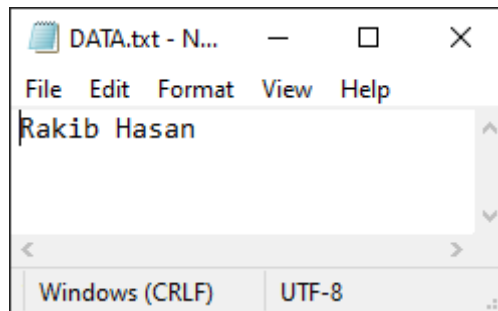
Input and Output
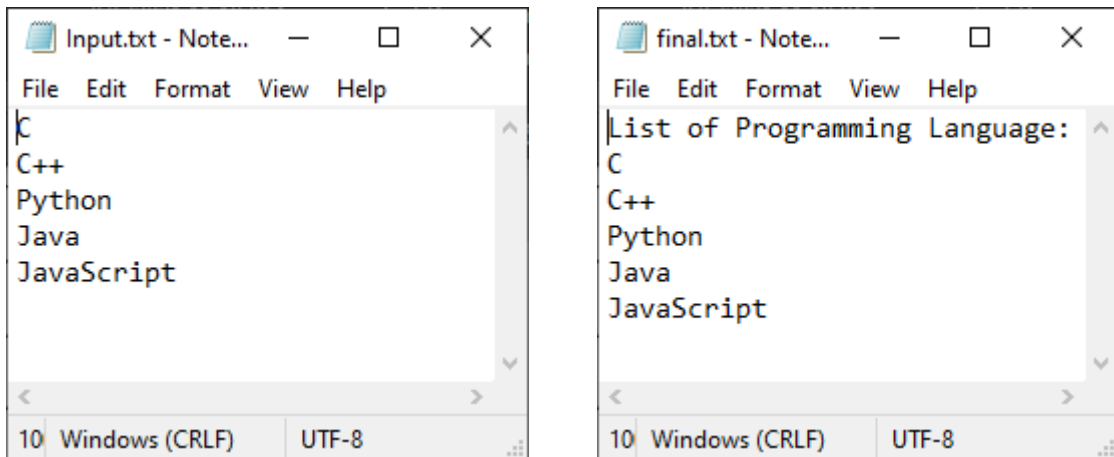
Question – 5

Program to find the size of file using file handling function

Answer

```c
#include <stdio.h>
#include <stdlib.h>
int main()
{
    FILE *fp;
    fp = fopen("DATA.txt", "r");
    if (fp == NULL)
    {
        printf("An error occured");
        exit(1);
    }
    else
    {
        fseek(fp, 0, SEEK_END); //moving pointer to end
        printf("Size = %ld bytes", ftell(fp));
    }
    fclose(fp);
    return 0;
}
```

Input and Output

Question – 6
Program to find the number of lines in a text file

Answer

```c
#include <stdio.h>
#include <stdlib.h>
int main()
{
    FILE *fp;
    char ch;
    int count = 1;
    fp = fopen("DATA.txt", "r");
    if (fp == NULL)
    {
        printf("An error occured");
        exit(1);
    }
    else
    {
        while (!feof(fp))
```

```
        {
            ch = fgetc(fp);
            if (ch == '\n')
            {
                count++;
            }
        }
    }
    fclose(fp);
    printf("Total Line = %d", count);
    return 0;
}
```

Input and Output